

REMARKS

Claims 1-6 are pending. By this Amendment, Claims 3-4 are amended. The claims are amended to correct antecedent basis problems and not for reasons related to patentability.

Applicant respectfully submits that no new matter is added.

Claims Rejected – 35 U.S.C. § 112

Claims 3-6 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims have been amended responsive to the rejection. Applicant respectfully requests withdrawal of the rejection.

Claim Rejections – 35 U.S.C. § 102

Claims 1-4 are rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 4,348,044 issued to Wood, III (hereinafter referred to as "Wood '044"). Applicant respectfully traverses the rejection.

Claim 1 recites, among other features, a workpiece drop prevention means for preventing a workpiece from dropping by attaching to the movable body to stop the releasing movement of the grip when the driving means is stopped, wherein the workpiece drop prevention means further comprises, among other features, a protrusion stick with a tapered tip and a support rail for supporting the protrusion stick so as to slide the protrusion stick between a protrusion position where the protrusion stick abuts on the moveable body and a recess position.

Wood '044 discloses an article gripping apparatus 19 having a housing 21 slideable within a support block 22. A piston 24, slideable within a cylinder 20, is

attached to a finger housing 30 at a front end of the housing 21 so that the housing 21 can be advanced and retracted within and relative to the support block 22. The housing 21 includes a pair of fingers 32 at a front end pivotably connected to the finger housing 30 with pivot pins 31. A bell crank portion 34 formed on a body 34b and extending inwards is also pivotably mounted on the pins 31. The body 34b includes a tapered surface 37, and the body 34b and bell crank portion 34 rotate in unison with the fingers 32. Each bell crank portion 34 engages a tapered groove 35 formed in an outer end of a linear actuator 36. The linear actuator 36 includes a piston portion 42, a shaft portion 46, and a fluid port 71 extending through the shaft portion 46. The piston portion 42 is slideable within a cylindrical bore 43 of a wedge block 38. The wedge block 38 is slideable within a bore 39 of the housing 21 and includes a taper 41 at a front end and a pressure chamber 45 formed between a shoulder 43 of the wedge block 38 and a back end of the actuator 36. A hole 72 provides communication between the fluid port 71 and the pressure chamber 45.

A first spring 61 extends between a back end of the wedge block 38 and a head 60 attached to the shaft portion 46 of the linear actuator 36. A second spring 68 extends between a disk 66 that abuts a shoulder 64 formed in the housing 21 and a disk element 54 secured to a back end of the shaft portion 46 of the linear actuator 36.

In a dormant condition, the first spring 61 urges the wedge block 38 upwards so that the taper 41 engages the taper surface 37. When a pressurized fluid is introduced into through fluid port 71 and into the pressure chamber 45, the wedge block 38 is forced backwards, disengaging the taper 41 from the tapered surface 37. As pressure of the fluid is increased, the wedge block 38 continues to move backwards until the

wedge block 38 engages a shoulder 40 of the housing 21. Thereafter, as pressure of the fluid is increased, the linear actuator 36 is forced upwards against a force of the second spring 68, causing the fingers 32 to pivot about the pivots pins 31 into a release configuration. When the fluid pressure is released, the second spring 68 forces the linear actuator 32 downwards, rotating the fingers 32 into a clamping configuration, and the first spring urges the wedge block 38 upwards so that the taper 41 and the tapered surface 37 engage.

However, Wood '044 does not disclose or suggest each and every feature of Claim 1. Wood '044 does not include a workpiece drop prevention means for preventing a workpiece from dropping by attaching to the moveable body to stop the releasing movement of the grip when the driving means is stopped. Specifically, the workpiece drop prevention means (wedge block 38) does not attach to or engage the moveable body (crank portion 34) when the driving means (cylinder 20) is stopped. Moreover, Wood '044 does not disclose or suggest an interrelation or connection between the cylinder 20 and any portion of the gripping apparatus 19 relating to the gripping and releasing function of the fingers 32. The cylinder 20 attaches to a yoke 23 secured to the finger housing 30 of the housing 21 and merely advances or retracts the housing 21 within the support block 22.

Similarly, Wood '044 does not disclose or teach a holding means for holding the protrusion stick at the recess position resisting against the pushing of the momentum means in a normal state and for releasing the protrusion stick when the driving means is stopped operating. As explained above, Wood '044 does not disclose or suggest any inter-operability between the driving means (cylinder 20) and the gripping function of the

apparatus 19.

Also, Wood '044 does not include a support rail for supporting the protrusion stick (wedge block 38). The wedge block 38 is slideable within the bore 29 of the housing 21.

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference."

Verdegaal Bros. V. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987) and M.P.E.P. § 2131.

As explained above, Wood '044 does not teach or suggest each and every feature recited by Claim 1. Therefore, Applicant respectfully submits that Claim 1 is not anticipated by, or rendered obvious in view of, Wood '044 and should be deemed allowable.

Claims 2-4 depend directly or indirectly from Claim 1. Therefore, Applicant respectfully submits Claims 2-4 should be deemed allowable for the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein.

Accordingly, Applicant respectfully requests withdrawal of this rejection.

Claim Rejections – 35 U.S.C. §103

Claims 5-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wood '044 in view of U.S. Patent No. 4,304,433 issue to Langowski (hereinafter referred to as "Langowski '433"). Applicant respectfully traverses the rejection.

Langowski '433 discloses a pipe gripping head 11 having fingers 32, 32' pivotable on pins 31, 31', respectively. A back end of the fingers 32, 32' extending beyond the pins 31, 31' is pivotably attached to actuating links 39, 39', respectively.

Opposite ends of the links 39, 39' are pivotably attached to an output shaft 43 of a cylinder 41. When the output shaft is extended, the fingers 32, 32' pivot into a release configuration. When the output shaft is retracted, the fingers 32, 32' pivot into a clamping configuration.

However, Langowski '433 does not teach or suggest a workpiece drop prevention means for preventing a workpiece from dropping by attaching to a moveable body to stop a releasing movement of a grip when a driving means is stopped. Put simply, Langowski '433 does not overcome or otherwise address the above-described deficiencies of Wood '044.

To establish *prima facie* obviousness, each feature of the rejected claim must be taught or suggested by the prior art of record. See M.P.E.P. § 2143.03. Therefore, because both Wood '044 and Langowski '433 do not teach or suggest a workpiece drop prevention means for preventing a workpiece from dropping by attaching to a moveable body to stop a releasing movement of a grip when a driving means is stopped, Applicant respectfully submits that the Office Action has failed to establish *prima facie* obviousness. As such, Applicant respectfully submits Claim 5 and 6 are not rendered obvious in view of Wood '044 and Langowski '433; submits Claims 5 and 6 should be deemed allowable for at least the same reasons Claim 1 is allowable, as well as for the additional subject matter recited therein; and respectfully requests withdrawal of the rejection.

Conclusion

In view of the foregoing, reconsideration of the application, withdrawal of the outstanding rejections, allowance of Claims 1-6, and the prompt issuance of a Notice of

Allowability are respectfully solicited.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

In the event this paper is not considered to be timely filed, the Applicant respectfully petitions for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account No. 01-2300, **referencing docket number 024446-00007.**

Respectfully submitted,
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